

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

PORT AUGUSTA (AUSTRALIA)

Altitude: 5 m.

Latitude: 32°29'S Longitude: 137°45'E

Temperature observation period.: 1940-1994 (55)

Rainfall observation period....: 1911-1994 (84)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	25.56	32.22	18.89	48.33	10.00	15.2	151.45
Feb.	25.56	32.22	18.89	47.22	9.44	12.7	130.17
Mar.	23.06	29.44	16.67	43.89	9.44	17.8	107.41
Apr.	19.45	25.56	13.33	37.78	5.00	17.8	67.88
May.	15.56	21.11	10.00	32.78	0.56	27.9	41.14
Jun.	12.78	17.78	7.78	27.22	0.00	27.9	25.36
Jul.	11.95	17.22	6.67	26.67	-0.56	17.8	23.41
Aug.	13.34	18.89	7.78	32.22	0.00	22.9	31.31
Sep.	16.11	22.22	10.00	35.00	3.33	22.9	48.55
Oct.	19.45	26.11	12.78	41.11	4.44	22.9	80.03
Nov.	22.23	28.89	15.56	43.33	6.11	17.8	108.09
Dec.	24.45	31.11	17.78	46.11	7.78	15.2	139.40
Year	19.12	25.23	13.01	38.47	4.63	239	954.20

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	430
Compensated thermicity index.....(Itc):	430
Simple continentality index.....(Ic):	13.6
Diurnality index.....(Id):	13.3
Annual ombrothermic index.....(Io):	1.04
Monthly estival ombrothermic index.....(Ios1):	0.50
Bimonthly estival ombrothermic index.....(Ios2):	0.55
Threemonthly estival ombrothermic index.....(Ios3):	0.57
Fourmonthly estival ombrothermic index.....(Ios4):	0.62
Annual ombro-evaporation index.....(Ioe):	0.25
Annual positive temperature.....(Tp):	2295
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	756
Positive precipitation.....(Pp):	239

N. of Months	P>4T	P:2T-4T	PT-2T	P<T	T<0
	0	1	5	6	0

Latitudinal Belt...: Subtropical

Continentality.....: Oceanic - Low Semihyperoceanic

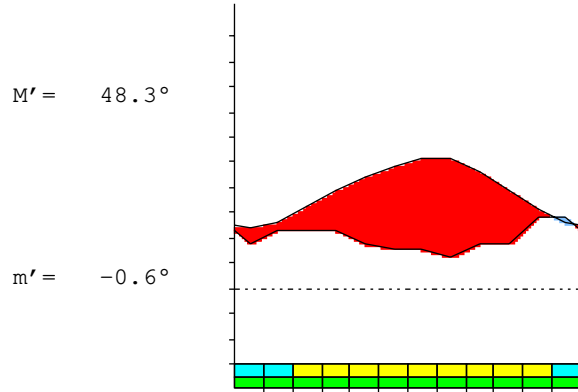
Bioclimate.....: MEDITERRANEAN XERIC-OCEANIC

Bioclimatic Belt...: LOW THERMOMEDITERRANEAN LOW SEMIARID

PORT AUGUSTA (AUSTRALIA)

5 m

P= 239 32° 29'S 137° 45'E 55/84 y.  
 T= 19.1 ° Ic= 13.6 Tp= 2295 Tn= 0  
 m= 6.7 ° M= 17.2 ° Itc= 430 Io= 1.0



MEDITERRANEAN XERIC-OCEANIC  
 LOW THERMOMEDITERRANEAN LOW SEMIARID

WATER INDEX CARD PORT AUGUSTA (AUSTRALIA)  
 Altitude: 5 m. Latitude: 32° 29'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	11.9	23	18	-3	0	20	3	0	0	-0.2
Aug.	13.3	31	23	0	0	23	8	0	0	-0.2
Sep.	16.1	49	23	0	0	23	26	0	0	-0.5
Oct.	19.5	80	23	0	0	23	57	0	0	-0.7
Nov.	22.2	108	18	0	0	18	90	0	0	-0.8
Dec.	24.5	139	15	0	0	15	124	0	0	-0.8
Jan.	25.6	151	15	0	0	15	136	0	0	-0.8
Feb.	25.6	130	13	0	0	13	117	0	0	-0.9
Mar.	23.1	107	18	0	0	18	90	0	0	-0.8
Apr.	19.5	68	18	0	0	18	50	0	0	-0.7
May.	15.6	41	28	0	0	28	13	0	0	-0.3
Jun.	12.8	25	28	3	3	25	0	0	0	0.1
Year	19.1	954	239	*	*	239	715	0	0	*

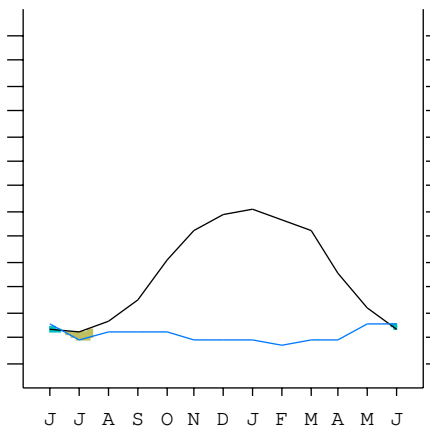
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration  
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

PORT AUGUSTA (AUSTRALIA)

32°29'S 137°45'E 5 m 55/84 y.

T= 19.1 Ic= 13.6 MEDITERRANEAN XERIC-OCEANIC  
 m= 6.7 Tp= 2295 LOW THERMOMEDITERRANEAN  
 M= 17.2 Tn= 0 LOW SEMIARID  
 M' = 48.3 Itc= 430  
 m' = -0.6 Io= 1.0  
 P= 239 mm  
 PE= 954 mm

Imbibing	26 May.
Saturation	10 Jun.
Reserve Use	14 Jul.
Deficit	



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [B1b]  
 + Type .....: B. Oceanic  
 + Subtype .....: 1. Semihyperoceanic  
 + Variant .....: b. Low  
 Thermic types [A3.A2]  
 + Latitudinal zone ....: A. Warm  
 + Latitudinal belt ....: 3. Subtropical  
 + Thermic type .....: A. Warm  
 + Thermic subtype .....: 2. Warm  
 Bioclimatic types [B6.2b.4b]  
 + Macrobioclimate .....: B. MEDITERRANEAN  
 + Bioclimate .....: 6. XERIC-OCEANIC  
 + Bioclimatic variant .:  
 + Thermic type.....: 2. THERMOMEDITERRANEAN  
 + Thermic subtype.....: b. LOW  
 + Ombrothermic type ...: 4. SEMIARID  
 + Ombrothermic subtype : b. LOW  
 Bioclimatic Classification .....Mexo.Tme.Sar.Seo

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 102  
 Coldest semester of the year.....(Psw): 137  
 Warmest four months period of the year.....(Pcm1): 61  
 Following warmest four months period.....(Pcm2): 91  
 Positive precipitation dryest 3 months.....(Ppd): 43  
 Positive precipitation dryest 2 months.....(Ppd2): 28  
 Positive precipitation dryest 1 month.....(Ppd1): 13  
 Positive precipitation warmest 3 months.....(Pps): 43  
 Positive precipitation warmest 2 months.....(Pps2): 28  
 Positive precipitation warmest 1 month.....(Pps1): 15  
 Positive precipitation coldest 3 months.....(Ppw): 69  
 Positive precipitation coldest 2 months.....(Ppw2): 46  
 Positive precipitation coldest 1 month.....(Ppw1): 18

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	68	63	43	63

Seasonal rainfall rhythms: W > P > F > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 25.6  
 Average coldest month [T].....(Tmin): 11.9  
 Maximum temp. warmest month [M].....(Tmax): 32.2  
 Minimum temp. coldest month [m].....(Tmin): 6.7  
 Absolute Max.temp. warmest month [M'].....(Tamax): 48.3  
 Absolute Min.temp. coldest month [m'].....(Tamin): -0.6  
 First warmest contrasted month [M].....(Tcmax): 32.2 (1)  
 First coldest contrasted month [m].....(Tcmin): 18.9 (1)  
 Estival temperature.....(Ts): 756  
 Positive temperature dryest 3 months.....(Tpd): 756  
 Positive temperature dryest 2 months.....(Tpd2): 511  
 Positive temperature dryest 1 month.....(Tpd1): 256  
 Positive temperature warmest 3 months.....(Tps): 756  
 Positive temperature warmest 2 months.....(Tps2): 511  
 Positive temperature warmest 1 month.....(Tps1): 256  
 Positive temperature coldest 3 months.....(Tpw): 381  
 Positive temperature coldest 2 months.....(Tpw2): 247  
 Positive temperature coldest 1 month.....(Tpw1): 120

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SEASONAL PARAMETERS

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Warmest semester...(Sms)	o	o	o							o	o	o
Dryest semester....(Smd)	o	o	o	o							o	o
Warmest 4 months...(Cm1)	o	o	o									o
Dryest 4 months....(Cmd)	o	o									o	o
Vegetation Activity(Pav)	o	o	o	o	o	o	o	o	o	o	o	o
Ultragelid...[M'<=0] (Pf)												
Hypergelid...[M <=0] (Pf)												
Gelid.....[T <=0] (Pf)												
Subgelid.....[m <=0] (Pf)												
Pregelid.....[m'<=0] (Pf)						o	o	o				
Agelid.....[m'> 0] (Pf)	o	o	o	o	o				o	o	o	o
HiperAgelid..[all>0] (Pf)	o	o	o	o	o				o	o	o	o

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 4.00  
 Mediterranean index of January.....(Im1): 9.96  
 Mediterranean index of January & February....(Im2): 10.09  
 Mediterranean index of December to February...(Im3): 9.77

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	152	152	127	178	178	279	279	178	229	229	229	178
Tp	245	256	256	231	195	156	128	120	133	161	195	222
Io (Iom)	0.62	0.59	0.50	0.77	0.92	1.79	2.18	1.49	1.72	1.42	1.18	0.80
Seasons	Summer			Autumn			Winter			Spring		
Pp(x10)/Tp	431 / 756			635 / 581			686 / 381			636 / 578		
Io (Iot)	0.570			1.094			1.802			1.101		
Semesters	December-May						June-November					
Pp(x10)/Tp	1066 / 1336						1322 / 959					
Io (Iosm)	0.798						1.379					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 2388/2295=1.04 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	152	152	127	178	178	279	279	178	229	229	229	178
Tp [T*10]	245	256	256	231	195	156	128	120	133	161	195	222
Iom [Pp/Tp]	62	59	50	77	92	179	218	149	172	142	118	80
Avm [200-Iom]	138	141	150	123	108	21	***	51	28	58	82	120
Seasons	Summer			Autumn			Winter			Spring		
Pp / Tp	431 / 756			635 / 581			686 / 381			636 / 578		
Iot [Pp/Tp]	57			109			180			110		
Avs E[Avm<200]	429			252			***			260		
Strong lower arid [1]							Weak lower arid [3]					
Strong upper arid [1]							Weak upper arid [2]					
Strong lower semiarid [3]							Weak lower semiarid [2]					
Weak upper semiarid [2]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp): 13.61
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....	22.68
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....	20.26
+ Oceanic (20<CI<40)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....	1.15
+ Subcontinental (1.1<CI<1.7)	
Rainfall Index of Lang (1925) [R=P/T] .....	12.49
+ Steppic (40>R>0)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....	8.20
+ Arid -steppic- (15>Ia>5)	
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....	24.03
+ Arid (30>Q>0)	
I of Dantin & Revenga (1940) [DR=100*T/P] .....	8.01
+ Extremely arid (DR>6)	
Aridity Index of UNEP [I=P/PE] .....	0.25
+ Semiarid (0.5>Im>0.2)	
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P].....	3.26
+ Very low (K<60)	

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)  
 + Climate ..... A. Warm and temperate warm  
 + Region ..... 2. Termohemieremic (Subdesertic warm)  
 + Thermic type: 2. Macrothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.04	0.04	0.06	0.06	0.11	0.12	0.08	0.10	0.09	0.08	0.06	0.05
T-E ratio	11.50	11.50	10.38	8.75	7.00	5.75	5.38	6.00	7.25	8.75	10.00	11.00
Precipitation-effectiveness: 8.88						Temperature-efficiency .....: 103.28						
Moisture Index [MI=100*(P-PE)/PE] .....: -74.97												
+ E.Dry (-110<MI<-66.7)												
Index of dryness [DI=100*d/PE] .....: 74.97												
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....: 0.00												
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE .....: 954.20												
+ Third mesothermic (855<PE<997)												

